

**A BROAD AGENCY ANNOUNCEMENT FOR GEOSTATIONARY SATELLITE ARCHITECTURE STUDY SOL OFA-GOES-R-3-0001;**

POC Jay W. Moore, NOAA Contracting Officer, telephone 301-713-4751 This notice is for a Broad Agency Announcement (BAA) within the context of Federal Acquisition Regulation (FAR) 35.016. White Papers submitted in response to this BAA must be received not later than 1600 local time on 14 August 2003 at the following address: U.S. DOC, NOAA, NESDIS, (ATTN: Jay W. Moore), 8455 Colesville Road, Suite 1450, Silver Spring, Maryland 20910-3315. White Papers should reference BAA NESDIS-3-62003 and should be addressed to the attention of Jay W. Moore. Respondents are directed to notify the Contracting Officer of their intent to respond by sending an email to [jay.moore@noaa.gov](mailto:jay.moore@noaa.gov). RESPONDENTS MUST GO TO THE FOLLOWING SITE TO DOWNLOAD THE TECHNICAL DESCRIPTION FOR THIS BAA:

[http://www.osd.noaa.gov/goesr\\_arch\\_study/index.htm](http://www.osd.noaa.gov/goesr_arch_study/index.htm) . White Papers must be submitted in an original and seven (7) copies. Written format: All White Papers shall use clear, readable, single-spaced type on 8 ½" x 11" paper, single-sided, unless using charts, which are encouraged where they can be appropriately used to convey approaches and methods. It is preferable that material be presented using a 10-point font size. Use of a 12-point proportionately based font is also acceptable. Also submit all files in .pdf format. The White Paper must not exceed twenty-five (25) pages of narrative and charts for a single task area proposal or fifty (50) pages of narrative and charts for a multiple task proposal. For further detail, refer to paragraph 2.6 of the Technical Description provided on the NOAA webpage listed below. Failure of any Respondent to follow these instructions shall lead to omission of information from consideration by the peer review panel, and shall be construed by the Government as the Respondent having made this exclusion purposefully. This BAA is open to commercial industry, academic institutions, and other interested parties. It is being sought to solicit alternative architectural concepts for an end-to-end, integrated, remote sensing observing system and data services for GOES-R.

The U.S. Government (USG) Department of Commerce's (DOC) National Oceanic and Atmospheric Administration's (NOAA) primary mission is to understand and predict changes in the Earth's environment, and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs. This mission requires a continuous capability to process, archive and disseminate environmental information to central processing centers and distributed direct users. This information is acquired and distributed on an extensive spatial range (global, regional and local) within a variety of time scales (minutes to days). This information includes, but is not limited to: hemispheric imagery; cloud and precipitation parameters; atmospheric profiles of temperature, moisture, wind, aerosols and ozone; surface conditions concerning ice, snow and vegetation; ocean parameters of sea temperature, color and state; solar conditions and in-situ space environment. These data are critically needed for 1) severe storm and flood warnings; 2) tropical cyclone (hurricane reconnaissance and warnings); 3) hydrologic forecasts and water resources management; 4) ocean surface and internal structures forecasts; 5) medium range

forecast outlook (out to fifteen days); 6) solar and space environmental forecasts; 7) aviation forecasts (domestic, military, and international); 8) ice conditions forecasts; 9) seasonal and inter-annual climate forecasts; 10) decadal-scale monitoring of climate variability; 11) long-term global environmental change assessment; 12) environmental air quality monitoring and emergency response; 13) fire and volcanic eruption detection and analysis; and 14) short-term and mesoscale forecasts.

To meet requirements and accomplish NOAA's mission, the current geostationary satellite systems perform three major functions:

- **Environmental Sensing:** Acquisition, generation and dissemination of atmospheric imaging and sounding data, solar and space environment (in-situ) data, land and ocean surface data.
- **Data Collection:** Interrogation and receipt of data from Earth surface-based data collection platforms and relay to the NOAA command and data acquisition stations.
- **Data Broadcast:** Continuous relay of meteorological data to distributed users, independent of other system functions and relay of distress signals from aircraft or marine vessels to search and rescue ground stations.

Historically, the ground systems associated with the geostationary satellites, which perform the data and product processing, distribution, archive and user interface functions have been addressed independently from the satellites. In the future, proposed systems need not be unique to GOES-R and may be components of existing or future over-arching (higher level) operational systems within NOAA. For example, new and/or upgraded capabilities required for enhanced GOES-R series functions in the areas of product generation, distribution networks, and archive facilities must be identified, planned, budgeted, and implemented. To effectively and efficiently meet the GOES-R system requirements, a complete end-to-end (data sensing to information access) approach must be adopted. In addition, the architecture concepts must maintain compatibility with all heritage satellite meteorological information collection needs and existing interfaces. As a result, the end-to-end GOES-R architecture must define interfaces internal within the GOES-R system and external to the appropriate NESDIS systems.

The Government desires to research complete end-to-end system architecture options that assess the infusion of new or existing technologies that may enhance performance and reduce costs. Respondents are encouraged to propose innovative methods to meet the performance requirements and provide cost benefits. However, it is recognized that potential Respondents may not have the capability or desire to research and address the complete end-to-end architecture. Therefore, Respondents may choose to propose one or more of the following Task Areas:

1. Task Area 1: Space and Launch Segments
2. Task Area 2: Command, Control and Communications (C3) Segments

3. Task Area 3: Production Generation and Distribution, Archive and Access, and User Interface Segments
4. Task Area 4: End-to-End System Integration

Respondent's can only submit one proposal comprised of either a single task or multiple tasks. The Government requires a White Paper detailing the conceptual architecture concepts, advanced state of the art technology studies involved, and past performance information demonstrating Respondent's capability to perform the Task Area(s) that they are proposing. This capability demonstration must include a description of the Respondent's past experience in developing GOES systems or similar/like systems, identifying the contract, a current reference person and phone number, and the Respondent's role in the performance of said contract(s). The Respondent must identify feasible architectures that will advance R&D studies, or enhance NOAA's mission capabilities or its interests in the GOES-R System, and identify past capabilities. The Government's Technical Description, notional GOES R architecture, and other supporting documents are online at:

[http://www.osd.noaa.gov/goesr\\_arch\\_study/index.htm](http://www.osd.noaa.gov/goesr_arch_study/index.htm)

The requesting office intends to rank the responses using a panel of experts known as the NOAA/NASA Peer Review Panel (hereafter, the "Panel"). The Panel ranking will be based upon 1) Respondent's experience on similar missions; 2) Respondent's current capability, evidenced by its corporate, research, and industrial resources to produce the GOES-R system or portions of the system corresponding to the Task Area(s) the Respondent is proposing; and, 3) how the research component of Respondent's study plan will contribute to NOAA's assessment of alternative architectures and advance the GOES-R mission.

The Panel will advise the selection official on the responses that offer demonstrated capability to perform the Task Area(s), and potentially innovative and feasible research opportunities that will advance the GOES-R mission. The Government contemplates an award of multi-tiered study contracts in the Fall 2003. It is anticipated that Tier 1 will consist of System Architecture Concepts, and Tier 2 of System Architecture Definition, which will provide additional definition and refinement to the initial study, such as additional Cost –as-an-Independent-Variable (CAIV) trades, risk identification, or other value-added details. Respondents to this BAA are assured that the Government will protect their proprietary data. Prior to the Government using this information, it will review with the Respondent use of their trade secret data. NON-RESPONSE TO THIS BAA WILL NOT PRECLUDE FUTURE COMPETITION FOR ANY ENSUING SYSTEM DESIGN AND DEVELOPMENT CONTRACTS. NOAA anticipates awarding several Study contracts. The anticipated value of the Tier 1 Task Areas are: (1) Task Area 1 - \$1.0M, (2) Task Area 2 - \$0.5M, (3) Task Area 3 - \$0.5M, and (4) Task Area 4 - \$0.5M over an approximately 12-month effort. No Respondent will be paid for the same work more than once.

Respondents are advised that the Government may secure the following consultants to provide supporting analyses on the Respondents' White Papers or proposals, for purposes of including a non-biased, third-party assessment from experts in the

respective fields of satellite systems, engineering, and communications, and ground systems: The Aerospace Corporation; Veridian, Inc.; MIT Lincoln Labs; The MITRE Corporation; MitreTEK; Swales Aerospace; Tecolote, QSS, and User Technology Associates. These organizations will sign and submit non-disclosure and organizational conflict of interest certifications to the Government in anticipation of these proposed analyses. These consultants will not, however, score any White Papers or proposals. Access to your White Papers shall be handled under the FAR, Part 3.104, and 5 U.S.C. 552(b)(4), to protect any specified confidential or proprietary business data. General information about the NOAA geostationary satellite program can be found at <http://www.oso.noaa.gov/goes>.